

## Drift distances for aerial, airblast and ground applications vary greatly

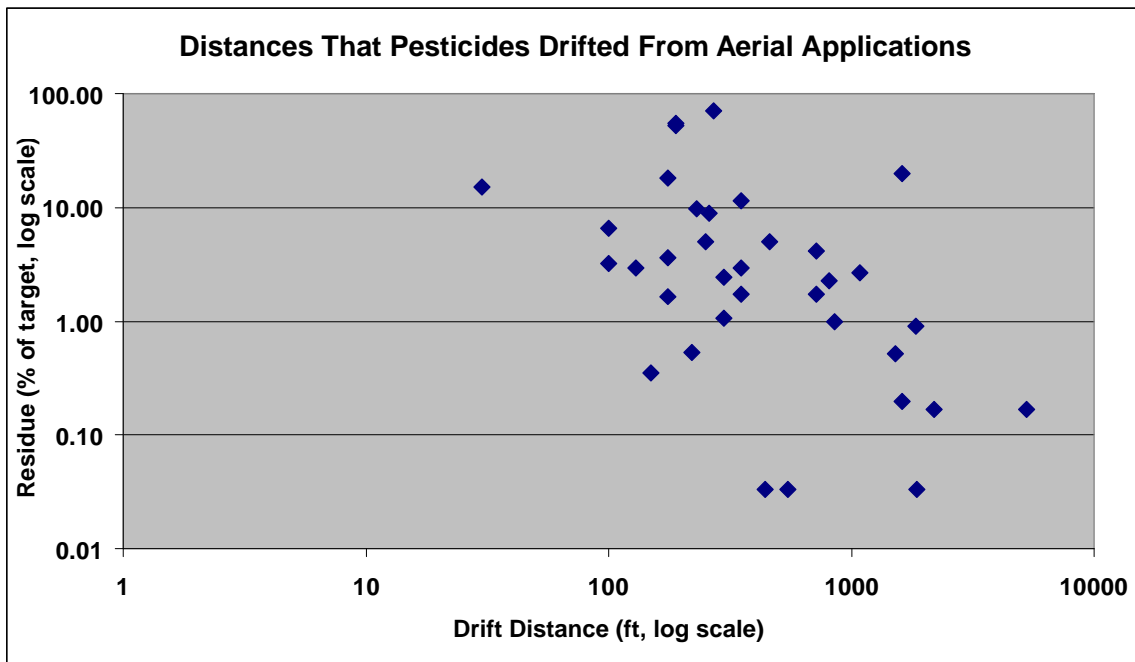
Drift distances and pesticide concentrations were graphed from 31 of the 205 investigations conducted by the Pesticide Management Division in north-central Washington between 1998 and 2003. When the samples were collected, investigators made no attempt to determine the absolute distance that the pesticide(s) drifted. In some investigations, staff collected samples for lab analysis to determine if a drift pattern existed (e.g. declining residue concentrations as the distance from treated site increased). Other investigations established the presence or *lack of* detectable residues at the non-target site affected by the alleged drift.



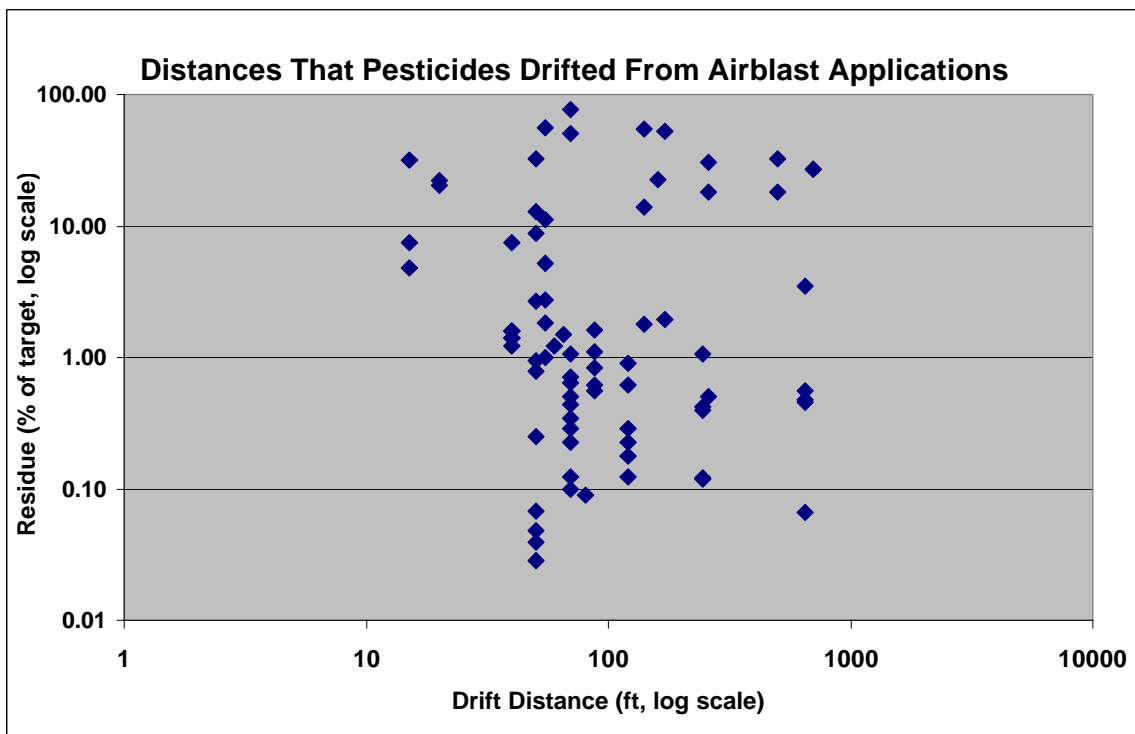
The following three graphs show the pesticide concentration versus distance for aerial, airblast, and ground (boom) application equipment. Residue concentrations detected at off-target sampling sites are shown as a percentage of the quantity detected at the target site (intended application site). The graphs are a summary of all active ingredients detected.

As the figures show, long distance drift was most often associated with aerial applications. Drift distances were similar for airblast and ground boom applications, except for a couple of exceptionally distant detections. The series of investigations used to compile the data here are insufficient to make generalizations about drift tendencies and application equipment. However, the data does support the common belief that long-distance drift is most likely from aerial applications. The data also show that drift distances of several hundred feet are not uncommon for airblast and ground boom applications.

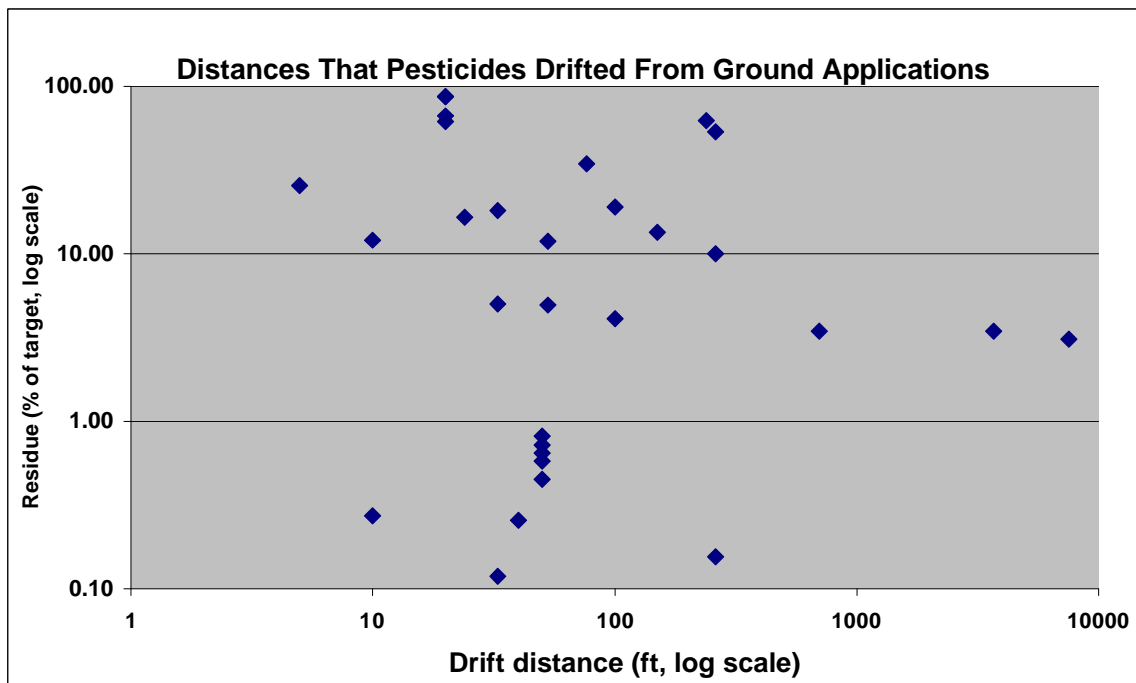
How significant are the data showing concentrations of detected pesticide? The significance will depend on the non-target site. Many factors affect how far a pesticide may drift and the quantity that moves off-site. Weather conditions, pesticide properties, and application equipment all introduce variables that make explaining or predicting drift difficult. The data in these graphs may not be conclusive, but it clearly shows the need for consistency and caution no matter what application equipment is used.



**Aerial drift.** There were thirteen different pesticides detected in investigations involving aerial drift. Off-target pesticide concentrations ranged from 0.001 parts per million (ppm) to 9.3 ppm. Target concentrations ranged from 0.46 to 215 ppm. Samples were collected up to 29 days after spraying.



**Airblast drift.** Eighteen pesticides were detected in the complaints involving airblast sprayers. Off-target pesticide concentrations ranged from 0.003 to 71 ppm while target concentrations ranged from 0.02 to 667 ppm. Samples were collected up to 31 days after spraying.



**Ground drift.** Twenty different pesticides were detected in the complaints involving ground spray equipment. Pesticide concentrations detected off-site ranged from 0.003 to 5.7 ppm and 0.098 to 50 ppm for the intended target.